

## REMARKS

This is a full and timely response to the outstanding nonfinal Office Action mailed December 23, 2003. Reconsideration and allowance of the application and presently pending claims 1-15, as amended, are respectfully requested.

### 1. Present Status of Patent Application

Upon entry of the amendments in this response, claims 1-15 remain pending in the present application. More specifically, claims 1-15 are directly amended. These amendments are specifically described hereinafter. It is believed that the foregoing amendments and additions add no new matter to the present application.

### 2. Rejection to Claims 4 and 9 Under 35 U.S.C. §112, ¶2

In the Office Action, claims 4 and 9 were rejected under 35 U.S.C. §112, ¶2, as being indefinite for failing to particular point out and distinctly claim the subject matter which applicant regards as the invention.

#### a. Claim 4

The Office Action alleges that “in claim 4, there is no antecedent found for ‘the current source.’” Claim 4 has been amended to correct this error. Applicants respectfully submit that this rejection has been overcome.

#### b. Claim 9

With respect to claim 9, the Office Action alleges:

“In claim 9, it is not understood what is meant by ‘a voltage associated with the biasing signal.’ It is not understood what relevance this ‘voltage’ has nor has it been recited as to where such is connected or provided in the circuit.”

Applicants respectfully assert that it is unclear whether the Office Action reject because of the word “voltage” or because of the “biasing signal.” Clearly, as understood in the art, a “biasing signal” must have a voltage (meaning a level of electric potential), and the biasing signal is clearly coupled to the biasing transistor, as recited in claim 8. Moreover, because the voltage is recited to be half of the supply voltage, one skilled in the art should appreciate that the electrical potential is in reference to electrical ground. The biasing signal is described on page 14, line 24, through page 15, line 2 of the present application. Applicants respectfully assert that this rejection should be withdrawn.

3. Response to Rejection of Claims 1-5 and 8-21 Under 35 U.S.C. §102(e)

Claims 1-5 and 8-21 were rejected under 35 U.S.C. Section 102(e) as purportedly being anticipated by *Park, et al.* (U.S. Pat. No. 5,729,178). The present application only contains 15 claims, so Applicant respectfully submits that the Office Action was in error in the recitation of claims 8-21. Applicant assumes that this rejection was intended to apply to claims 8-15. It is well established at law that, for a proper rejection of a claim under 35 U.S.C. §102 as being anticipated based upon a single reference, the reference must disclose, teach, or suggest, either implicitly or explicitly, all elements/features/steps of the claim at issue. *See, e.g., In Re Dow Chemical*, 5 U.S.P.Q.2d 1529, 1531 (Fed. Cir. 1988), and *In re Keller*, 208 U.S.P.Q.2d 871, 881 (C.C.P.A. 1981).

a. Claim 1

Applicants respectfully submit that independent claim 1 is allowable for at least the reason that *Park* does not teach, disclose, or suggest at least the feature of “a non-

differential output terminal coupled to the output stage, where the output terminal is operable to transmit an **output current signal as a function of voltages associated with the differential input signals**,” as recited in claim 1. That is, one embodiment of the present invention, as recited in claim 1, allows the user to create a non-differential output current based upon input voltages from differential input signals.

Applicants respectfully assert that *Park* does not teach, disclose, or suggest at least the feature of “a non-differential output terminal coupled to the output stage, where the output terminal is operable to transmit an **output current signal as a function of voltages associated with the differential input signals**,” as recited in claim 1. In particular *Park* appears to show an output called “VCM” which apparently stands for voltage common mode, based on the fact that it is a common mode feedback voltage terminal. Applicants respectfully assert that one skilled in the art would not understand a voltage terminal to be a **current** output. Thus, Applicants respectfully assert that it is impossible to the *Park* reference to teach every feature of the claimed method. Thus, for at least these reasons, Applicants respectfully assert that this rejection should be withdrawn.

b. Claim 2

Furthermore, because independent claim 1 is believed to be allowable over the prior art of record, dependent claim 2 (which depends from independent claim 1) is allowable as a matter of law for at least the reason that the dependent claim 2 contains all features/elements of independent claim 1. See, e.g., *In re Fine*, 837 F.2d 1071 (Fed. Cir. 1988). Moreover, it is apparent that *Park* makes no reference to whether the input stage

is rail-to-rail as recited in claim 2. Hence, there are other reasons why this claim is allowable.

c. Claim 3

Because independent claim 1 is believed to be allowable over the prior art of record, dependent claim 3 (which depends from independent claim 1) is allowable as a matter of law for at least the reason that the dependent claim 3 contains all features/elements of independent claim 1. See, e.g., *In re Fine*, 837 F.2d 1071 (Fed. Cir. 1988).

d. Claim 4

Because independent claim 1 is believed to be allowable over the prior art of record, dependent claim 4 (which depends from independent claim 1) is allowable as a matter of law for at least the reason that the dependent claim 4 contains all features/elements of independent claim 1. See, e.g., *In re Fine*, 837 F.2d 1071 (Fed. Cir. 1988). Moreover, it is apparent that *Park* does not show a voltage-to-current (V2I) converter wherein the V2I converter is a constant current source for the center frequency of the phase lock loop when the difference between the differential input signals is substantially zero. Hence, there are other reasons why this claim is allowable.

e. Claim 5

Because independent claim 1 is believed to be allowable over the prior art of record, dependent claim 5 (which depends from independent claim 1) is allowable as a matter of law for at least the reason that the dependent claim 5 contains all features/elements of independent claim 1. See, e.g., *In re Fine*, 837 F.2d 1071 (Fed. Cir. 1988). Moreover, it is apparent that *Park* does not teach, disclose, or otherwise suggest “the output stage comprises a first output stage and a second output stage, the first output stage being

coupled to the first complementary transistor and to the non-differential output terminal, the second output stage being coupled to the first output stage,” as recited in claim 5. In stark contrast, it is apparent that MC5 and MC12, contrary to the claims of the office action, are part of the input stage (one being part of a pMOS input stage, the other being part of an nMOS input stage), not the output stage. See, e.g., Column 8, line 40-52. Hence, there are other reasons why this claim is allowable.

f. Claim 8-15

Because independent claim 1 is believed to be allowable over the prior art of record, dependent claims 8-15 (which depend from independent claim 1) are allowable as a matter of law for at least the reason that the dependent claims 8-15 contain all features/elements of independent claim 1. See, e.g., *In re Fine*, 837 F.2d 1071 (Fed. Cir. 1988). Moreover, Applicant respectfully requests that these claims be examined individually, as each claim is entitled to its own examination on the merits. Applicants respectfully assert that the elements of these claims have not been addressed in the instant Office Action. Therefore, the Office Action does not meet its burden to set out a *prima facie* case for anticipation. Applicants respectfully assert that the rejection should be withdrawn, and these claims are in condition for allowance.

4. Response to Rejection of Claims 13-15 Under 35 U.S.C. §103(a)

In the Office Action, claims 13-15 stand rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over *Lee* (U.S. Patent 5,889,437) in view of *Park et al.* (U.S. Patent 5,729,187). It is well established at law that, for a proper rejection of a claim under 35 U.S.C. §103 as being obvious based upon a combination of references, the cited

combination of references must disclose, teach, or suggest, either implicitly or explicitly, all elements/features/stepsof the claim at issue. See, e.g., *In Re Dow Chemical*, 5 U.S.P.Q.2d 1529, 1531 (Fed. Cir. 1988), and *In re Keller*, 208 U.S.P.Q.2d 871, 881 (C.C.P.A. 1981).

a. Claims 13-15

Because independent claim 1 is believed to be allowable over the prior art of record, and *Lee* does not teach the elements missing from the *Park* reference with respect to claim 1, dependent claims 13-15 (which depend from independent claim 1) are allowable as a matter of law for at least the reason that the dependent claims 13-15 contain all features/elements of independent claim 1. See, e.g., *In re Fine*, 837 F.2d 1071 (Fed. Cir. 1988).

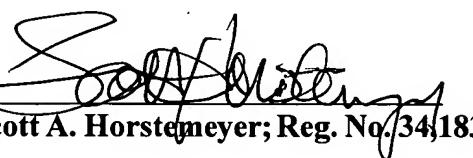
**CONCLUSION**

In light of the foregoing amendments and for at least the reasons set forth above, Applicant respectfully asserts that all objections and/or rejections have been traversed, rendered moot, and/or accommodated, and that the now pending claims 1-15 are in condition for allowance. Favorable reconsideration and allowance of the present application and all pending claims are hereby courteously requested. If, in the opinion of the Examiner, a telephonic conference would expedite the examination of this matter, the Examiner is invited to call the undersigned attorney at (770) 933-9500.

Respectfully submitted,

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